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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,390	10/26/2001	Antonius A.M. Staring	US 010511	4612

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EXAMINER

TESLOVICH, TAMARA

ART UNIT PAPER NUMBER

2137

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/043,390		STARING, ANTONIUS A.M.	
	Examiner		Art Unit	
	Tamara Teslovich		2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/26/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>03.09.04 10.26.01</u> | 6) <input type="checkbox"/> Other: _____ |

M

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

5 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

10 (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-20 are rejected under 35 U.S.C. 102(a) as being anticipated by
“A Review on Attacks, Problems and Weaknesses of Digital Watermarking and
the Pixel Reallocation Attack” by K. F. Tsang and O.C. Au, hereinafter referred to
15 as **Tsang**.

Regarding claim 1, Tsang discloses a method of attacking a screening
algorithm, the method comprising the steps of:

20 transforming (“scrambling”) content to manipulate a watermark within the
content;

subjecting the content to a screening algorithm (“recorder”); and
transforming (“de-scrambling”) the content to reverse any manipulation
performed on a watermark the content during the first transforming step (see
Tsang page 388 “Attacks on Copy Control Application”).

(Examiner Note: See also Tsang page 388 "Watermark Estimation Through Detector Analysis" wherein the contrast of the image is reduced until the detector can no longer detect the watermark, at which point the luminance is then increased pixel by pixel until the watermark appears to the detector again).

5

Regarding claim 2, Tsang discloses the method of attacking a screening algorithm as recited in claim 1 further comprising the step of adding a pseudo-random sequence ("scrambling") to the content during the first transforming step (see Tsang page 388 "Attacks on Copy Control Applications").

10

Regarding claim 3, Tsang discloses the method of attacking a screening algorithm as recited in claim 2 further comprising the step of removing the pseudo-random sequence added to the content ("de-scrambling") during the first transforming step (see Tsang page 388 "Attacks on Copy Control Applications").

15

Regarding claim 4, Tsang discloses the method attacking a screening algorithm as recited in claim 1 further comprising the step of removing a watermark from the content (see Tsang page 386 "Removal Attacks"; page 393 reference "combining two or more basic attacks").

20

Regarding claim 5, Tsang discloses the method of attacking a screening algorithm as recited in claim 1 wherein the screening algorithm comprises a

Art Unit: 2137

Secure Digital Music Initiative screening ("SDMI") algorithm (see Tsang page 385).

5 Regarding claim 6, Tsang discloses the method of attacking a screening algorithm as recited in claim 1 wherein the screening algorithm ("recorder" or "detector") screens the content for a watermark (see Tsang page 388 "Attacks on Copy Control Applications").

10 Regarding claim 7, Tsang discloses the method of attacking a screening algorithm as recited in claim 1 further comprising the step of admitting the content to a secure domain ("recording") after subjecting the content to the screening algorithm, when no watermark is detected (see Tsang page 388 "Attacks on Copy Control Applications").

15 Regarding claim 8, Tsang discloses the method of attacking a screening algorithm as recited in claim 1 further comprising the step of manipulating the watermark by reversing all sections of the content ("geometric transformation") (see Tsang page 386 "Detection Disabling").

20 Regarding claim 9, Tsang discloses the method of attacking a screening algorithm as recited in claim 1 wherein the first and second transforming steps are performed in the same transformation device (see Tsang page 388 "Attacks on Control Applications").

Regarding claim 10, Tsang discloses an apparatus for attacking a screening algorithm comprising:

a processing device having a processor coupled to a memory, the processing device being operative to transform ("scramble") content to be downloaded to manipulate a watermark embedded in the content, wherein the content is subjected to a screening algorithm ("detector"), the memory storing the content when the content passes through the screening algorithm (see Tsang page 388 "Attacks on Copy Control Application").

(Examiner Note: See also Tsang page 388 "Watermark Estimation Through Detector Analysis" wherein the contrast of the image is reduced until the detector can no longer detect the watermark, at which point the luminance is then increased pixel by pixel until the watermark appears to the detector again).

Regarding claim 11, Tsang discloses the apparatus for attacking a screening algorithm as recited in claim 10 wherein the processing device removes the watermark embedded in the content (see Tsang page 386 "Removal Attacks"; page 393 reference "combining two or more basic attacks").

Regarding claim 12, Tsang discloses the apparatus for attacking a screening algorithm as recited in claim 10 wherein the processing device comprises a digital signal processor (see Tsang page 388 "Signal Processing Attack").

Regarding claim 13, Tsang discloses an article of manufacture for attacking a screening algorithm, the article comprising a machine-readable medium containing one or more programs which when executed implement the

5 steps of:

transforming ("scrambling") content to manipulate a watermark within content;

subjecting the content to a screening algorithm ("detector"); and

transforming ("de-scrambling") the content to reverse any manipulation

10 performed on a watermark in the content during the first transforming step (see Tsang page 388 "Attacks on Copy Control Application").

(Examiner Note: See also Tsang page 388 "Watermark Estimation

Through Detector Analysis" wherein the contrast of the image is reduced until the detector can no longer detect the watermark, at which point the luminance is then

15 increased pixel by pixel until the watermark appears to the detector again).

Regarding claim 14, Tsang discloses the article of manufacture for attacking a screening algorithm as recited in claim 13 further comprising the step of adding a pseudo-random sequence to the content during the first transforming

20 step (see Tsang page 387 "Ambiguity Attack").

Regarding claim 15, Tsang discloses the article manufacture for attacking a screening algorithm as recited in claim 13 wherein the first and second

Art Unit: 2137

transforming steps are performed in respective first and second transformation devices (see Tsang pages 7-8 "Results").

Regarding claim 16, Tsang discloses the article of manufacture for
5 attacking a screening algorithm as recited in claim 13 further comprising the step of removing a watermark from the content (see Tsang page 386 "Removal Attacks"; page 393 reference "combining two or more basic attacks").

Regarding claim 17, Tsang discloses the article of manufacture for
10 attacking a screening algorithm as recited in claim 13 wherein the screening algorithm ("recorder" or "detector") screens the content for a watermark (see Tsang page 388 "Attacks on Copy Control Applications").

Regarding claim 18, Tsang discloses the article of manufacture for
15 attacking a screening algorithm as recited in claim 13 further comprising the step of admitting the content to a secure domain ("recording") after subjecting the content to the screening algorithm ("detector"), when no watermark is detected (see Tsang page 388 "Attacks on Copy Control Applications").

20 Regarding claim 19, Tsang discloses the article of manufacture for attacking a screening algorithm as recited in claim 13 further comprising the step of writing downloaded content to a user device ("recording") (see Tsang page 388 "Attacks on Copy Control Applications").

Art Unit: 2137


Regarding claim 20, Tsang discloses the article of manufacture for attacking a screening algorithm as recited in claim 13 further comprising the step of swapping the most and least significant bytes in a 16-bit sample (bit-by-bit)
5 (see Tsang page 386 "Removal Attacks").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamara Teslovich whose telephone number
10 is (571) 272-4241. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

15 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR
20 system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER